

REMARKS***Claim Rejections – U.S.C. § 112***

The Examiner pointed to a spelling error in claim 1 at line 4 from the bottom. Claim 1 has been amended to correct this error.

Claim Rejections – U.S.C. § 103

The Examiner rejected claims 1 to 3, 5 to 7 and 13 as being unpatentable over Blessinger et al. in view of Stauffer. Reconsideration of this rejection is requested for the following reasons.

Blessinger et al. teaches an apparatus for horizontal casting but, as noted by the Examiner, Blessinger et al. fails to teach the use of a drop-down connecting trough. The Examiner alleges that Stauffer discloses a drop-down connecting trough (transfer trough 5) and alleges that it would be obvious to use the drop-down connecting trough of Stauffer in the apparatus of Blessinger et al. to effectively transfer and drain molten metal from the trough when casting is stopped or when there is a spill out. Applicant points out that Stauffer does not disclose a drop-down connecting trough as stated by the Examiner. As shown in Figure 2 of Stauffer, the trough 5 has a free end at the right-hand side of the drawing that is raised from a horizontal metal-conveying position by a chain hoist 65. Hence, the trough does not drop down but rather is raised up. For example, it is stated in column 3 at lines 33 to 37:

“At the end of the cast or in the event of a spill out, the normal reaction of the personal conducting the casting operation is to lift the outlet end of the trough. By means of this invention, the trough can be so raised pivoting about the horizontal hinge pin.”

This is said to have the following effect (column 3, lines 44 to 48):

“Besides releasing the latch tension, raising the end of the trough causes the connection between the trough and the outlet to be opened to allow both trough and tapping block drainage into a pan below the joint.”

It would not be possible to use the improvement of Stauffer in the apparatus of the present invention. If such a substitution were made, the outcome would be quite different from that of the present invention. For example, Stauffer might suggest that the connecting troughs 20 of the present apparatus should be made raisable so that they could be drained at the point where they join the feed trough 14. However, the remote ends of the connecting troughs 20 are held against movement as shown in Figures 4a and 4b of the present application. Instead, in the present application, a quite different solution is found, namely providing a drop-down portion 24 at the remote end of the connecting troughs. This not only drains the connecting trough 20, but also the casting mould 16 as shown by the reverse arrows in Figure 4b. This desirable effect would not be achieved by raising the free end of the connecting trough 20 which would have to be carried out for analogy with Stauffer.

Accordingly, it is unreasonable to reject the claims of this application based on a combination of Blessinger et al. and Stauffer because such a combination, if possible at all, would lead to an apparatus and method that is very different from those of the present application. Reconsideration is therefore requested.

The Examiner went on to reject claims 4 and 14 to 15 as unpatentable over Blessinger et al. in view of Stauffer and further in view of either Suzuki et al. or Follrath et al. Claims 4 and 14 to 15 are dependent claims and it is believed that these claims should be considered patentable over the cited prior art at least for the same reason as the claims discussed above, namely the improper combination of Blessinger et al. and Stauffer.

Rejected claims 8 to 9 and 12 as unpatentable over Blessinger et al. in view of Stauffer and further in view of Kuttner. This rejection is believed to be improper at least for the reason given above, i.e. it is not proper to combine Blessinger et al. in view of Stauffer because such a combination, if possible at all, would not lead to the apparatus of the present application. In addition, claim 8 defines a casting apparatus in which a starter block has a threaded recess for receiving molten metal. Kuttner teaches a starter block with a T-shaped groove. Following the casting procedure, the cast billet is removed from the end of the starter block by sliding the billet in a sideways manner along the T-groove until it is clear of the block. In the present apparatus, shown in Figures 7 and 8, a threaded, conical recess 38 is formed in the block 36 for receiving molten metal. After the casting operation, the starter block can be unthreaded from the ingot and re-used in the casting operation. The unscrewing operation carried out with the apparatus of the present invention is quite different from the lateral sliding of Kuttner.

The Examiner rejected claims 10 and 11 over Blessinger et al. in view of Stauffer and further in view of Kuttner and Evans. Claims 10 and 11 are dependent claim 8 and are therefore believed to be patentable at least for the same reason as claim 8, namely that the combination of Blessinger et al. and Stauffer does not lead to the apparatus of the present invention and also the solution provided by Kuttner differs from that of the present invention. In view of this, the teaching of Evans is believed to be irrelevant to the present invention as defined by rejected claims 10 and 11.

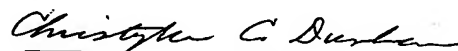
In view of the arguments presented above, it is believed that no amendment of the claims is required at this time in order to distinguish from the cited prior art.

Amendments to the Description

This opportunity has been taken to correct an obvious grammatical error on page 5 of the disclosure and to expand the references on pages 7 and 8 to two related co-pending U.S. patent applications since these applications have now been published and the relevant information has now been supplied.

In view of the above, favourable reconsideration of this application is requested.

Respectfully,



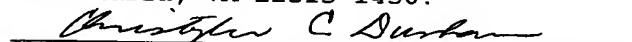
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